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EXAMINER

NGUYEN, NAM V

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/758,836	<b>Applicant(s)</b> MURAKAMI ET AL.	
	<b>Examiner</b> Nam V. Nguyen	<b>Art Unit</b> 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20, 23, 24 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 and 36 is/are allowed.
- 6) ☒ Claim(s) 1-20, 23, 24 and 27-33 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/6/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

This communication is in response to applicant's Amendment which is filed June 2, 2009.

An amendment to the claims 1, 4, 11, 12, 17, 19, 20, 23, 24 and 27-34 has been entered and made of record.

A new set of claims 35-36 are introduced.

Claims 1-8, 10-12, 16-21, 23-24 and 26-36 are now pending in the application.

### ***Response to Arguments***

In view of applicant's amendment to amend the claim 24 to obviate the 35 U.S.C. §112 second paragraph rejections, therefore, examiner has withdrawn the rejection under 35 U.S.C §112, second paragraph.

Applicant's amendments and argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C § 102(b) as discussed below. Applicant's amendment and argument with respect to the pending Claims 1-8, 10-12, 16-21, 23-24 and 26-36, filed June 2, 2009, have been fully considered but they are not persuasive for at least the following reasons.

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On page 20, second paragraph, Applicant's arguments with respect to the invention in Rowe et al. does not disclose measuring a specific, internal, sub-epidermal structure within a user is not persuasive.

Regarding claim 1, Rowe discloses a near-infrared tissue spectra can be obtained by projecting near-infrared radiation into skin on the underside of human forearms and capturing the light reflected back and out through the tissue. The tissue spectrum collected preferably includes primarily diffuse reflected light reflected from the **inner dermis** (i.e. a specific, internal sub-epidermal). Multiple tissue spectra and identities can be collected from individuals for whom identity verification may later be desired (column 6 lines 23 to 36; see Figures 1 and 2). Clearly, Rowe discloses a biometric sensor configured to detect an electromagnetic energy signal to obtain a measurement of said specific, internal, sub-epidermal structure.

Furthermore, Rowe discloses a system for performing identity verification includes: a computer having an input device and an output device; a database including near-infrared tissue spectral data for authorized persons or a collection of spectral data for individuals against which unknown individual's would be checked; a near-infrared radiation source for projecting near-infrared radiation into **subcutaneous tissue** (i.e. a specific, internal sub-epidermal structure); a near-infrared spectrometer for measuring subcutaneous near-infrared intensity over a plurality of wavelengths; and a program running in the computer for discriminating between a target individual's spectral data and the authorized spectral data or collection of spectra database containing spectra for a group of individuals. The program can include software for performing discriminant analysis (column 3 line 66 to column 4 line 13). Clearly, Rowe discloses a

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biometric sensor configured to detect an electromagnetic energy signal to obtain a measurement of said specific, internal, sub-epidermal structure for comparing with database for authorization.

Additionally, applicant amended the term “specific” to clarify detail of the internal sub-epidermal structure is, however, the terms “specific” is not specifically define that the biometric sensor is a bone density, cardiac rhythms, etc. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

On page 22, Applicant's arguments with respect to the invention in Rowe et al. does not disclose determining a biometric marker from a measurement of a specific, sub-epidermal structure within a user is not persuasive.

As discuss above, Rowe discloses a biometric sensor configured to detect an electromagnetic energy signal to obtain a measurement of said specific, internal, sub-epidermal structure for comparing with database for authorization. Rowe discloses the verification task is implemented when a person seeks to perform an operation for which there are a limited number of people authorized (e.g., perform a spectroscopic measurement, gain entry into a room, achieve control over an interlocked vehicle or piece of machinery, etc.). The person's NIR spectral data 500 (i.e. biometric profiler) is used for verification of the person's identity. In this preferred method, the person uses a spectroscopic measurement device to collect one or more tissue spectra 510 (i.e. biometric marker). Before, during, or after the measurement, the person also states who they are (e.g. "person X") by some means (personal ID number, name, badge, etc.). The verification task is then the confirmation 530 that the person is who they stated by

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comparison of the near-infrared spectrum with one or more previously recorded and verified spectra from person X. Equivalently, if the verification task is associated with an operation for which only a single person is authorized, then the task simplifies to an assurance that the sole authorized individual is attempting the operation (column 11 line 44 to column 12 line 13; see Figure 5).

Furthermore, as show in Figures 6-7, an authorized database contains intra-patient spectral features (600) (i.e. biometric sensor profile) was well as instrumental and environmental effects for verification task by comparing (620) with measured multiple times of spectral differences (610) (i.e. biometric marker). If the identification that the person stated is accurate, the spectral feature must be consistent with the database. Clearly, Rowe discloses a biometric sensor configured to detect an electromagnetic energy signal to obtain a measurement of said specific, internal, sub-epidermal structure for comparing with database for authorization.

Examiner acknowledges the declaration of David Miller Pursuant to C.F.R. § 1.132. however, the claims in a pending application should be given their broadest reasonable interpretation. In re Pearson, 181 USPQ 641 (CCPA 1974). And that Rowe discloses the authorization tissue spectral data with a database having a spectra for comparison to authorized individual.

The examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-16, 20, 23-24 and 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Rowe et al. (US# 6,628,809).

Referring to Claims 1-2, 12-13, 20, 24, Rowe et al. disclose a method and a device activated by biometric authentication (column 2 line 61 to column 3 line 28; see Figures 1-7), comprising:

An energy source (16) and a spectrum analyzer (30) (i.e. a biometric sensor) configured to measure a multiple tissue spectra of inner dermis or subcutaneous tissue (i.e. a specific, internal, sub-epidermal structure) within a user from which a tissue spectral data (i.e. a biometric

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marker) of said user may be determined (column 11 lines 44 to 63; see Figure 5), said biometric sensor comprising:

An energy source (16) ( i.e. an energy emitter) configured to emit an electromagnetic energy signal toward said user, wherein said electromagnetic energy signal is configured to penetrate said user to measure a subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) within said user (column 7 lines 28 to 57; see Figures 1 and 2), and

an spectrum analyzer (30) (i.e. an energy sensor) to detect an electromagnetic energy signal returned from said user responsive to said emitted electromagnetic energy signal to thereby obtain a measurement of said subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) (column 8 lines 20 to 27; see Figures 1 and 2); and

a database (600) (i.e. a memory module) in communication with said the energy source (16) and the spectrum analyzer (30) (i.e. the biometric sensor) comprising a biometric profile of an authorized user of said device (column 12 lines 32 to 42; see Figure 6),

wherein said device is configured to measure said tissue spectral data of inner dermis or subcutaneous tissue (i.e. the specific, internal, sub-epidermal structure) within said user using said biometric sensor, to determine the biometric marker of said user therefrom, to compare said biometric marker to said biometric profile of said authorized user of said device, and to generate an authentication signal if said biometric marker matches said biometric profile of said authorized user of said device (column 11 line 44 to column 12 line 42; see Figures 5 to 7).

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Referring to Claims 3 and 16, Rowe et al. disclose the device activated by biometric authentication of claims 1 and 12, wherein said biometric sensor further comprises an activation sensor (column 11 lines 44 to 55; see Figure 5).

Referring to Claim 4, Rowe et al. disclose the device activated by biometric authentication of claim 1, wherein said biometric sensor further comprises a discriminate analysis module (520) (i.e. a translator) whereby an energy signal received from said energy sensor (16) is translated into an electronic signal comprising said measurement of said specific, internal, sub-epidermal structure used to determine said biometric marker of said user (column 11 line 64 to column 12 line 13; see Figures 4 and 5).

Referring to Claims 5-6 and 15, Rowe et al. disclose the device activated by biometric authentication of claims 1 and 12, wherein said energy emitter (16) emits electromagnetic energy in the form of a light wave (column 5 lines 48 to 65; column 6 lines 11 to 62; see Figures 1-2).

Referring to Claims 7-8, Rowe et al. disclose the device activated by biometric authentication of claim 1, wherein said energy sensor (30) senses light waves (column 6 lines 63 to column 7 line 18; column 8 lines 12 to 27; see Figures 1-2).

Referring to Claims 11, 23, Rowe et al. disclose the device activated by biometric authentication, to the extent as claimed with respect to claim 1 above, and the biometric sensor configured to measure a multiple tissue spectra (i.e. a specific, continuous, time-variant, internal,

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sub-epidermal physiological process) occurring within a user from which a biometric marker of said user may be determined (column 11 lines 8 to 43; see Figures 3 to 5).

Referring to Claims 27-32, Rowe et al. disclose the biometrically activated device of Claim 1, Rowe et al. disclose wherein said specific, internal, sub-epidermal structure within said user corresponds to tissue spectrum collected preferably includes primarily diffuse reflected light reflected from the inner dermis (i.e. sub-epidermal layer structure) (column 7 lines 28 to 47; column 11 lines 44 to 63; see Figures 1-5) and other measurement of analyte concentration in an individual (column 5 lines 2 to 7).

Referring to Claim 33, Rowe et al. disclose the biometrically activated device of Claim 32, Rowe et al. disclose wherein the device is further configured to select one of said plurality of different specific, internal, sub-epidermal structure within said user (column 5 lines 2 to 7).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe et al. (US# 6,628,809) in view of Lofberg (US# 4,582,985) and in view of Pavlov et al. (US# 4,614,861).

Referring to claim 17, Rowe et al. the device activated by biometric authentication, to the extent as claimed with respect to claim 1 above, however, Rowe et al. did not explicitly disclose a planar card includes a first surface and an opposing second surface; and a data communicator embedded within said second surface of said card, said data communicator in communication with said memory module for communicating data to an external source.

In the same field of endeavor of identify verification, Lofberg teaches that a planar card (1) includes a first surface and an opposing second surface (4 lines 31 to 41; see Figure 1) in order to create a portable device to hold information about the owner.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using the data carrier with verification process taught by Lofberg with the identification of individual by using near-infrared radiation into skin to capturing the light reflected back and out through the tissue for identity verification of Rowe et al. because using the data carrier with verification process would increase usability of the identity verification process.

In the same field of endeavor of self-contained card, Pavlov et al. teach that an input/output port (36) to communicate with a semiconductor data memory of microprocessor 34 to communicate data with a programming machine 90 (column 9 line 11 to 23; column 13 line 44 to 68; see Figures 3-6 and 9) in order to read confidential and non-confidential information which has been stored on the self-contained verification card.

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using an input/output port to communicate information data with external source taught by Pavlov et al. in a data carrier that exchange of data with terminal equipment of Lofberg and in the identity verification using multiple tissue spectra of Rowe et al. because using input/output port to exchange data between data carrier and terminal equipment would increase security and reliable communication of exchanging information data to external source..

Referring to claim 18, Rowe et al. in view of Lofberg and in view of Pavlov et al. disclose the biometrically activated card of claim 17, Pavlov et al. disclose a liquid crystal display (14) embedded between card top surfaces 48 and card backing 40 and connect to microprocessor 34 (column 10 lines 8 to 18; column 11 lines 4 to 16; column see Figures 3 and 5).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt et al. (US# 4,582,985) in view of Rowe et al. (US# 6,628,809).

Referring to claim 19, Schmitt et al. discloses a biometrically activated portable telecommunication device (190) (column 3 lines 17 to 30; see Figures 14-15),

the portable telecommunication device (190) having an activated state and an inactivated state controlled by an activation switch (i.e. a power control means) (column 6 lines 46 to 64; see Figure 4);

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a biometric sensor (30) embedded within said the portable telecommunication device (190) and the biometric sensor on surface of said the portable telecommunication device (column 13 lines 57 to 62; see Figures 14-15);

a fingerprint ID stored memory (208) embedded within the portable telecommunication device (190), said the fingerprint ID stored memory (208) in communication with the biometric sensor (30) and the power control means (column 13 lines 46 to 62; see Figures 4 and 14-15).

However, Schmitt et al. did not explicitly disclose a biometric sensor having an electromagnetic energy transmitter and an electromagnetic energy receiver, configured to measure a specific, internal, sub-epidermal structure within a user from which a biometric marker of said user may be determined, wherein said electromagnetic energy emitter is configured to penetrate said user to measure a specific, internal, sub-epidermal structure within said user.

In the same field of endeavor of identity verification, Rowe et al. teach that an energy source (16) and a spectrum analyzer (30) (i.e. a biometric sensor) configured to obtain a multiple tissue spectra (i.e. a specific, internal, sub-epidermal structure) within a user from a tissue spectral data (i.e. a biometric marker of said user) may be determined (column 11 lines 44 to 63; see Figure 5) in order to verify identity of a living individual.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a biometric sensor by non-invasive method with near-infrared absorption of light energy by tissue taught by Rowe et al. in a biometric sensor of a cellular telephone of Schmitt et al. because using a biometric sensor having an energy transmitter and an energy receiver would increase reliable of sensing biometric of a user.

*Allowable Subject Matter*

Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 35-36 are allowed.

Referring to claims 34-36, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that receive a returned second electromagnetic energy signal from said user responsive to said second emitted electromagnetic energy signal comprising a measurement of said second one of said plurality of different types of specific, internal, sub-epidermal structure within said user, determine a second biometric marker of said user using said measurement of said second specific, internal, sub-epidermal structure, compare said first biometric marker and said second biometric marker to said biometric profile of said authorized user of the device, and generate an authentication signal if said first biometric marker and said second biometric marker match correspond to said biometric profile of said authorized user of said device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on 571- 272-3059. The fax phone numbers for the

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organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/N. V. N./  
Examiner, Art Unit 2612

/Brian A Zimmerman/  
Supervisory Patent Examiner, Art Unit 2612